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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/065,511

10/25/2002

Chia J. Liu

2002-0165

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10/08/2008

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EXAMINER

NGUYEN, BRIAN D

ART UNIT

PAPER NUMBER

2416

MAIL DATE

DELIVERY MODE

10/08/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                     |  |
|------------------------------|--------------------------------------|-------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/065,511 | <b>Applicant(s)</b><br>LIU, CHIA J. |  |
|                              | <b>Examiner</b><br>BRIAN D. NGUYEN   | <b>Art Unit</b><br>2616             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 7-8, 13-16, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ando et al (2004/0213242) in view of Weil et al (2002/0093954).

Regarding claim 1, Ando discloses a method of configuring a packet-switched network (figure 15) comprising the steps of: (i) receiving a request to establish a traffic engineering tunnel across the packet-switched network (see paragraphs 0008, 0089); (ii) at a router (switch 50) traversed by the traffic engineering tunnel, creating a queue for packets carried inside the traffic engineering tunnel (see 10 in figure 1 and  $Q_6-Q_{N+6}$  in figure 2); and (iii) reserving bandwidth for the queue in accordance with the request to establish the traffic engineering tunnel (see bandwidth allocation in paragraphs 0020 and 0026), wherein the queue created for packets carried inside the traffic engineering tunnel is given a priority and the reserved bandwidth for the queue can only be used by packets carried inside the traffic engineering tunnel (see paragraph 0026). Ando does not specifically disclose the packet carried inside the traffic engineering tunnel is given priority over other traffic at the router. However, Weil discloses this feature (see LSP for traffic engineering in paragraph 0032; tunnels are defined for the transport of high quality of service traffic in paragraphs 0017 and 0029; and high quality of service traffic carried inside the tunnels is given priority over other traffic in paragraph 0031). Therefore, it would have

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been obvious to a person of ordinary skill in the art at the time the invention was made to give traffic carried inside the channel a higher priority as taught by Weil in the system of Ando in order to ensure quality of service for delay critical traffic carried inside the tunnels.

Regarding claims 2 and 7, Ando discloses packets are identified as being carried inside the traffic engineering tunnel by a label in the packet and wherein the queue is associated with the label (see label in paragraph 0002).

Regarding claim 8, Ando discloses a method of routing packets in a packet-switched network comprising the steps of: (i) receiving a packet at an incoming interface of a router (see figures 1 and 14); (ii) determining whether the packet has a label identifying a traffic engineering tunnel, thereby identifying that the packet is being carried inside the traffic engineering tunnel (see S22 in figure 7); (iii) where the packet is being carried inside the traffic engineering tunnel, sending the packet to a queue associated with the label (see 10 in figure 1 and  $Q_6-Q_{N+6}$  in figure 2). Ando does not specifically disclose the packets carried inside the traffic engineering tunnel is given priority over other traffic at the router. However, Weil discloses this feature (see LSP for traffic engineering in paragraph 0032; tunnels are defined for the transport of high quality of service traffic in paragraphs 0017 and 0029; and high quality of service traffic carried inside the tunnels is given priority over other traffic in paragraph 0031). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to give traffic carried inside the channel a higher priority as taught by Weil in the system of Ando in order to ensure quality of service for delay critical traffic carried inside the tunnels.

Regarding claim 13, claim 13 is a method claim has substantially the same limitation as method claim 7. Therefore, it is subject to the same rejection.

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Regarding claim 14, Ando discloses a router (switch 50) comprising: (i) a plurality of interfaces (figure 1); (ii) a first processing module that sorts packets received at an interface into those packets that are carried inside a traffic engineering tunnel and those packets that are not carried inside a traffic engineering tunnel (S22 in figure 7); (iii) a first queue ( $Q_6$ - $Q_{N+6}$  in figure 2) which receives from the first processing module only packets carried inside a traffic engineering tunnel; (iv) a second queue ( $Q_0$ - $Q_6$ ) which receives from the first processing module packets that are not carried inside a traffic engineering tunnel. Ando does not specifically disclose the first queue has a higher priority than the second queues. However, Weil discloses this feature (see LSP for traffic engineering in paragraph 0032; tunnels are defined for the transport of high quality of service traffic in paragraphs 0017 and 0029; and high quality of service traffic carried inside the tunnels is given priority over other traffic in paragraph 0031). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to give traffic carried inside the channel a higher priority as taught by Weil in the system of Ando in order to ensure quality of service for delay critical traffic carried inside the tunnels.

Regarding claims 15, 16, and 22, Ando discloses label switching (see paragraph 0002).

3. Claims 3-6, 9-12, and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ando in view of Weil as applied to claims 1, 8, and 16 above, and further in view of Nomura (6,973,504).

Regarding claims 3 and 4, Ando does not specifically disclose the queue is shared between two or more traffic engineering tunnels and the reserved bandwidth for the queue comprises a sum of bandwidth reserved for each of the two or more traffic engineering tunnels.

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However, Nomura teaches a method for decreasing required resource for the bandwidth reservation in an inter-site connection network used for communication between communication sites (lines 2 - 4 in Abstract), which is based on a concept of shared bandwidth allocation determined when establishing a path between sites, the shared bandwidth (or aggregation bandwidth) is reserved for a plurality of paths (tunnels), instead of individual bandwidth resource reserved on a path by path basis (col. 2, lines 23 - 27); the embodiment is assumed that Label Distribution Protocol (LDP) is used for establishing MPLS path (LSP: Label Switching Path - Tunnel) (col. 5, lines 61 - 62); when a bandwidth is to be allocated for the path, a path having the same originating site ID or destination site ID is searched out of the existing paths belonging to the same group ID, when the same ID is found, the sum of the bandwidth possessed by the existing path (aggregation bandwidth) and the path request bandwidth is determined as a temporary aggregation bandwidth (col. 5, lines 17-22; col. 6, lines 41 - 52; P1 - P10 in Figure 5). It would have been obvious to a person of the ordinary skill in the art at the time the invention was made to add the concept of shared bandwidth for a plurality of paths (tunnels) as taught by Nomura to the method of MPLS queue configuration of Ando, in order to decrease required resource for the bandwidth reservation in the inter-site connection network used for communication between communication sites (lines 2 - 4 in Abstract of Nomura).

Regarding claims 5 and 6, Ando does not disclose that the queue is shared between two or more tunnels with the same head (or tail) end router. Nomura teaches that when a bandwidth is to be allocated for the path, a path having the same originating site ID (head end router) or destination site ID (tail end router) is searched out of the existing paths belonging to the same group ID, when the same ID is found, the sum of the bandwidth possessed by the existing path

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(aggregation bandwidth) and the path request bandwidth is determined as a temporary aggregation bandwidth (col. 6, lines 41 - 52); also, the idea is illustrated in Figures 10 and 11, in which are the "Aggregated bandwidth by a group of same originating site" and "Aggregated bandwidth by a group of same destination site". It would have been obvious to a person of the ordinary skill in the art at the time the invention was made to add the idea of grouping the paths (tunnels) with the same head (tail) end router as taught by Nomura to the method of MPLS queue configuration of Ando, in order to decrease required resource for the bandwidth reservation in the inter-site connection network used for communication between communication sites (lines 2 - 4 in Abstract of Nomura). Therefore, it would have been obvious to combine Nomura with Ho to obtain the invention as specified in claims 5-6.

Regarding claims 9-12, claims 9-12 have substantially the same limitation as claims 3-6. Therefore, they are subject to the same rejection.

Regarding claims 17-21, claims 17-21 are apparatus claims that have substantially the same limitation as claims 3-6. Therefore, they are subject to the same rejection.

### ***Response to Arguments***

4. Applicant's arguments filed 7/14/08 have been fully considered but they are not persuasive.

The applicant argues that nowhere in Ando teach using traffic engineering tunnels. The examiner respectfully disagrees because MPLS traffic using a traffic engineering tunnel. The applicant further argues that Weil fails to bridge the substantial gap left by Ando because Weil teaches away from Applicant's invention and fails to teach or suggest a method of configuring a

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packet-switched network comprising creating a queue for packets carried inside the traffic engineering tunnel and wherein the queue created for packets carded inside the traffic engineering tunnel is given priority over other traffic. The examiner respectfully disagrees because Weil teaches that network tunnels are defined for transport of high quality of service traffic and high quality of service traffic may be given priority over less critical, e.g. best effort, traffic (see paragraphs 0017 and 0031). Therefore, the combination of Ando and Weil render the claims obvious.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN D. NGUYEN whose telephone number is (571)272-3084. The examiner can normally be reached on 7:30-6:00 Monday-Thursday.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571) 272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

10/5/08

/Brian D Nguyen/  
Primary Examiner, Art Unit 2616